

Remarks:

Reconsideration of the application, as amended herein, is respectfully requested.

) Claims 1 - 2, 4 - 7, 9 - 11 and 14 - 19 are presently pending in the application. Claims 1, 6 - 7 and 8 - 11 have been amended. Claims 8, 12 and 20 have been canceled. Claims 5 - 7 and 9 - 11 are being rejoined to the application. As it is believed that the claims were patentable over the cited art in their original form, the claims have not been amended to overcome the references.

Applicants would like to thank Examiner Landau for his careful consideration given in reviewing the case and for the courtesy shown to Applicants' representative during a series of telephone conferences regarding the rejoinder of claims 5 - 7 and 9 - 11.

More particularly, claims 5 - 12 and 20 of the instant case were withdrawn based on an election of species made on October 26, 2004.

) Subsequently, in a Notice of Allowability dated March 24, 2006, claims 1, 2, 4 and 14 - 19 were indicated as being allowed because:

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the prior art of record, either singularly or in combination, does not disclose or suggest the combination of limitations including said emitter short region extending as far as a chip end in edge regions of the IGBT. Although Figure 6 of Nakagawa (US Pat. 4,689,647) appears to disclose an emitter short region 21 extending to a chip end, the portion shown in Figure 6 is not the entire chip. The wavy lines shown as the side edges in Figure 6 indicated the actual chip extends farther than shown in the figure. Furthermore, Nakagawa also does not disclose or suggest an annular high-voltage edge as claimed. [emphasis added by Applicants]

However, the Notice of Allowability went on to cancel the withdrawn claims 5 - 12 and 20 from the instant application.

As stated in a telephone conversation with the Examiner, Applicants traverse the cancellation of all of the withdrawn claims from the instant application.

More particularly, Applicants believe that the allowed claims were generic to at least formerly withdrawn claims 5 - 7 and 9 - 11. As such, claims 5 - 7 and 9 - 11 should have been rejoined to the instant application.

Applicants claim 5 depends from the allowed claim 1 and recites:

The IGBT according to claim 1, wherein said at least one emitter short regions is one of a plurality of emitter short regions.

The limitation of Applicants' claim 5 of "a plurality of emitter short regions" is both encompassed by the generic

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claim 1 ("at least one emitter short region"), as well as supported by the drawings. For example, Figs. 4A, 4B, 4D and 4E shown a plurality of emitter short regions.

Further, Claim 1, even including the limitations added in prosecution, remains generic to claim 5 and such claim 5 is supported by the instant application. For example, it was explained in the Notice of Allowability that none of the prior art disclosed: 1) said emitter short region extending as far as a chip end in edge regions of the IGBT; and 2) an annular high-voltage edge as claimed.

All of Applicants' figures 3A, 3B, 4A, 4B, 4C, 4D and 4E show the claimed annular high-voltage edge, as well as that the emitter short regions extend as far as the chip end in edge regions of the IGBT. Although a white rim at the chip edge is shown in Figs. 4A, 4B, 4C and 4E, but not marked by a reference number, the same area is clearly marked in Figs. 3A and 4D by the reference number 39, which is denoted in the specification as "emitter short region 39". See page 13 of the instant application, lines 8 - 15. As stated on page 13, lines 24 - 26:

The emitter short region 39 may extend beyond the high-voltage edge 31 as far as the edge of the device, thereby obviating the need for precise alignment.  
[emphasis added by Applicants].

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Figs. 3A, 3B, 4A, 4B, 4C, 4D and 4E are reproduced herebelow for convenience.

FIG 3A

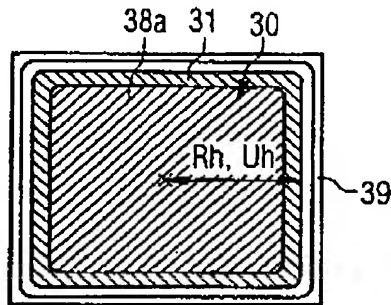


FIG 3B

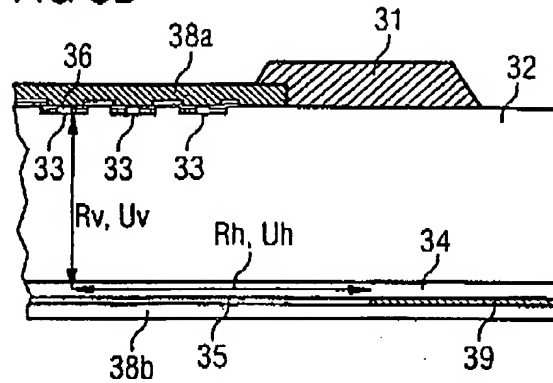


FIG 4A

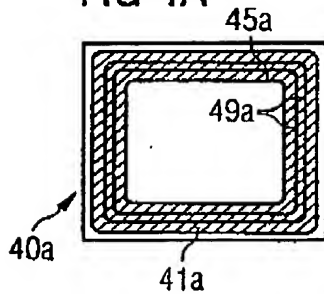


FIG 4B

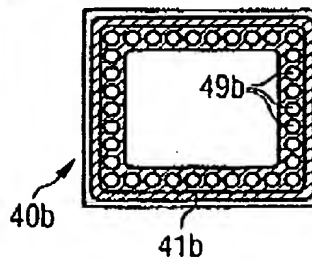


FIG 4C

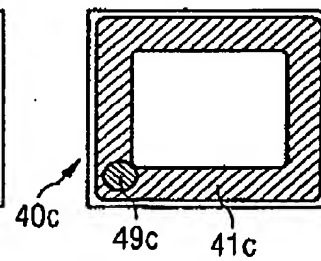


FIG 4D

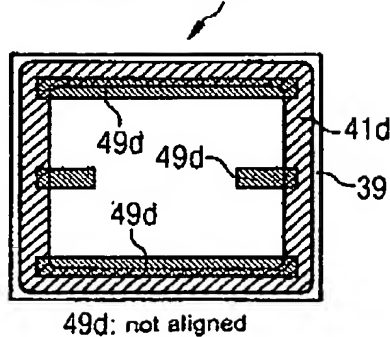
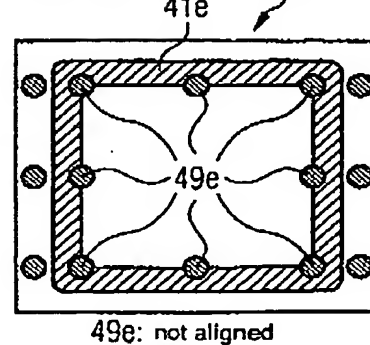


FIG 4E



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It can similarly be seen from the instant application that claims 6 - 7 and 9 - 11 are, similarly, dependent claims that include all of the limitations of an allowed generic claim and are supported by the instant application.

The above was discussed with Examiner Landau, who recommended minor amendments to the claims to better clarify them. An interview summary issued by Examiner Landau, documenting the Telephonic Interview of May 15, 2006, states, in part:

Discussed proposed amendments to claims 1, 6, 7 and 9 - 11. The amendment to claim 1 would change "said emitter short region" to "said at least one emitter short region". The amendments to claims 6, 7 and 9 - 11 would change "said emitter short regions" to "at least some of said emitter short regions". The examiner agrees to enter the proposed amendment if submitted as a 3.12 amendment, since it does not affect the patentability of the claims. Upon entry of the amendment, the examiner will rejoin claims 5 - 7 and 9 - 11. Note that claims 8, 12 and 20 will remain cancelled. [emphasis added by Applicants]

As such, Applicants submit the a present Amendment under 37 C.F.R. § 1.312 and respectfully request its entry, as set forth in the Interview Summary of May 15, 2006, because the amendments do not affect the patentability of the claims.

In view of the foregoing, reconsideration and allowance of claims 1, 2, 4 - 7, 9 - 11 and 14 - 19 are solicited.

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If an extension of time for this paper is required, petition  
for extension is herewith made.

) Please charge any fees that might be due with respect to  
Sections 1.16 and 1.17 to the Deposit Account of Lerner  
Greenberg Stemer LLP, No. 12-1099.

Respectfully submitted,

  
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For Applicants

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